

Abstract

This invention is directed to isoelectric gateways for use in the alteration of the composition of the sample wherein the buffering capacity of such isoelectric gateways is not as limited as in an isoelectric membrane and the isoelectric gateways are suitably used in analytical and preparative-scale isoelectric focusing separations, or in the alteration of the composition of solutions that contain at least one amphoteric substance. The isoelectric gateway is comprised of a first ion-permeable barrier; a second ion-permeable barrier at a predetermined distance apart from the first ion-permeable barrier so as to define a space therebetween; and an isoelectric substance disposed between the first and second ion-permeable barriers, wherein the isoelectric substance has a characteristic pI value and a good buffering capacity and adequate conductivity around its characteristic pI value, and wherein the ion-permeable barriers substantially prevent convective mixing between the contents of the isoelectric gateway and its environment.